

2644 Teresita Street
San Diego 4, Calif.
May 27th, 1958

Mr. Allen W. Dulles, Director
Central Intelligence Agency
2430 E Street
Washington D. C.

Dear Sir:

Since the Russian Spudnick I there has been talk about how we compare with Russia in science and technology. Whether we are ahead or not depends largely on the degree of efficiency in our getting valuable scientific data into the hands of those bestqualified to use it as soon as it is developed and by the quickest means possible. The enclosed article, taken the "San Diego Engineer" of the Engineers and Architects Assn maybe of interest toyou.

Industry is producing complicated computers, data processors as well as language translators. IBM tells us that it has developed a new devices which can scan even the longest scientific tract and in a matter of seconds can give the observer the facts minus a lot of unnecessary wordage.

Also enclosed is a resolution thatoriginated in the North Island Post of the American Legion and thru the help of Mr. Roscoe Morse, prominent San Diego Legionaire we believe that it will also win the support of the National American Legion.

It is true that there has been in existence for some time the ASTIA (Armed Services Technical Information Assn) but thru insufficient and uncertain funds, possibly because of politics, it has not been able to trained a personnel qualified to "feed" the propoer material to these mechanical marvels.

The purpose of this letter and itsenclosures is to urge you to help Congressman Bob Wilson, San Diego, in his efforts to provide the funds for Astia that are needed with the hope thatpossibly SanDiego may get a much needed branch of ASTIA. A project of such importance to the nation's security should not be subject to partisan politics.

Because San Diego is rapidly becoming the space an electronics center of America we need such a branch of ASTIA here. Already located here are the famous divisions of General Dynamics: Stromberg Carlson, General Atomics, Convair-Astronautics, and Convair San Diego and we hope eventually to get Electric Boat to build atomic submarines here. In addition there are located here the Navy Electronics Lab, Scripps Oceanography Institute, Narmco, Rohr, Ryan, Solar, Kin Tel, Daystrom Systems, Cubic, Chemitronics and others moving here almost daily.

Very truly yours,

Robert J. Wilson 60084

RESOLUTION
February 7, 1958

WHEREAS, one of the most important factors in defense is in decreasing the length of time it takes to engineer and test a project before it gets into production stage or in decreasing the production lead time and many of the most important scientific discoveries are actually rediscoveries, and

WHEREAS, present day methods of automation has provided us with means whereby the use of the Charactertron tube, and data processing and recording equipment may be used to scan automatically, record and translate technical and scientific information previously performed for related problems as well as automatic language translation, that may be instantly used for reference material on a problem, and

WHEREAS, at present it is extremely difficult for one industry to receive information on an identical problem that another has encountered or the same could apply to each branch of the armed services, and

WHEREAS, since the majority of the research for missile and space projects is being conducted in the western part of the United States, and

WHEREAS, the North Island Post 753 of the American Legion has adopted a resolution calling for a Technical and Scientific Information Center to be set up to provide for solution of engineering problems and that this Information Center be directed by the newly appointed Cabinet Officer, Dr. James R. Killian, and to be provided with the most modern automatic data scanning and recording equipment to provide immediate reference information to all industries working on related projects for the armed services, therefore

BE IT RESOLVED that the San Diego Industrial Development Council Inc. go on record as endorsing said resolution of the American Legion, and

BE IT FURTHER RESOLVED that the Technical Information Center be located in San Diego, California, and that this resolution be forwarded to the proper authorities for immediate action.

Submitted,

Robert J. W. Therson
Past President

San Diego Industrial Development Council Inc.
2644 Teresita Street, San Diego 4, Calif.

By
Colonel
John P. Taylor*

Why The Reds Are So Well Informed

"In the next few years our scientists will have the task of developing a series of high-speed machines for analyzing the content of a world fund of scientific and technical literature, for the automatic translation of foreign works into Russian, and for processing statistical data."

This quotation is not from an American journal. It is extracted from a recent article published by the USSR Academy of Science. Not a new idea, certainly, since it has been discussed in this country as a "sometime in the future" objective for several decades. What does make this statement significant is that the Kremlin is supporting the project in a manner which will permit its early solution.

The author of the article runs an Electrical Modeling Laboratory in the Institute of Precision Mechanics and Computer Engineering in Moscow. As an expert, he suggests much of the mechanics of electronic solution and outlines some areas of the problem still requiring research.

United States participation in the Atoms for Peace Conference in Geneva caused many an American scientist present to lift an eyebrow in surprise when he discovered how well informed was his Soviet counterpart on our scientific activities and how quickly the results of our latest scientific and technical publications are made available in abstract form and in full translation to Russian scientists and engineers.

This is not strange when we consider that the Soviet All-Union Institute of Scientific and Technical Information, organized just three years ago, now has some 1,800 full-time employees and utilizes an additional 13,000 working scientists and engineers to prepare 400,000-odd abstracts annually from some 10,000 western scientific and technical publications.

How many trillions of rubles, how many tens of thousands of man-years of precious research and development time this system has saved Russia will never be known. On the other hand, with such a system, should we wonder quite as much that Russian science and technology have been able to catch up so rapidly?

The current Russian system is important in another way. Russia not only automatically profits from our gains and mistakes, but watches the trends of our proposed research programs and our latest scientific thinking and, as a result, can concentrate its rapidly expanding research and development capability on work in additional areas showing considerable promise.

This current Russian system, though complex and expensive, is useful. But what about the one proposed by the initial quotation? Instead of the twenty "express" journals which presently publish the results of American work within two weeks to a month after its release here, the proposed system will permit the processing and distribution of the entire input of published material on an immediate basis. It is suggested that journals will eventually be electronically scanned, magnetically stored, mechanically translated, and electrically distributed as needed. As a matter of interest, one of the first jobs to be undertaken will be the processing of the entire fifty years of our *Chemical Abstracts*, to be followed by our other abstract journals.

Russian scientific dictionaries are already available for most common languages. Their incorporation into "memory storage banks" for instantaneous access is now technically feasible. The Russian Academy of Science article closes on the note that it will, in time, be possible to speak into a microphone in Russian and have the speech simultaneously broadcast in any of a number of different languages without the intermediary of a human translator.

None of these technical possibilities is unique in our scientific world. In fact, we believe that we are still in the lead in many of the scientific disciplines and technical areas needed to support such an effort. But, what system, what central organization do we have in this country to take advantage of all these possibilities?

The time has come when the multitudes of individuals and small groups hard at work in government, in industry, in the academic world, in the foundations, must unite to create a single agency to concentrate all the individual and piecemeal efforts into an integrated and efficient whole.

Odious as it may be to some, when the Russians draw ahead of us in certain areas of technical and scientific work, we must be ready, willing and able to use the new knowledge to our advantage. Will this have any real payoff? We be-

*Col. Taylor has served fifteen years in a number of Research and Development positions in AF. Prior to his recent transfer to the Aircraft Laboratory at WADC, he acted as executive officer to James H. Doolittle and to the Chief Scientist of the AF for a period of three years. This article is reprinted with permission of editor of Air Force Magazine, August 1957 issue.—Ed.

the title "The Demand and Supply of Scientific Personnel," by Blank and Stigler. The value of experience has declined more with time, particularly since 1940. As proof of this, one need merely look at the salary compression situation which exists. This rather serious situation has served to disenchant and frustrate engineers and scientists, which in turn has an adverse impact upon their creative and productive capacities.

David M. Blank and G. J. Stigler, authors of the book, "The Demand and Supply of Scientific Personnel" conclude that up to 1955 at least there was no shortage of engineers and scientists, but in fact an increasingly ample supply existed. The writers, economic advisors to the Columbia Broadcasting System, developed their findings under a grant to the National Bureau of Economic Research by the National Science Foundation.

The major arguments posed by the Blank-Stigler report are as follows:

In a free labor market, a shortage exists when the number of workers goes up slower than the number demanded at salaries paid in the recent past. Thus, salaries rise when a shortage exists. Engineering Salaries have been dropping steadily over the past twenty years when compared to those in other fields. All professional incomes have gone down relative to so-called wage earners during this period, but engineering salaries have gone down even further.

The decline, the authors reported, has been especially pronounced since 1939, in spite of a minor increase in the relative salaries of engineers after the outbreak of the conflict in Korea. The main effect of this short reversal of trend seemed to be popular acceptance of the idea of a serious and basic scarcity of engineers, the study set forth.

The comparatively high starting salaries of engineers since the Korean War reinforced this impression, according to the authors.

The report showed that in 1870 there were 866 graduate engineers in the United States. Since that time, the number of chemists and engineers has grown seventeen times as fast as the labor force as a whole. In 1950 there were 500,000 engineers, a net increase of about 240,000 since 1940.

An increase in supply of engineers is expected to continue. Projections in the study predict that there will be 35,000 to 40,000 engineering graduates annually in 1960, 50,000 to 60,000 in 1965 and possibly as many as 80,000 to 90,000 in 1970.

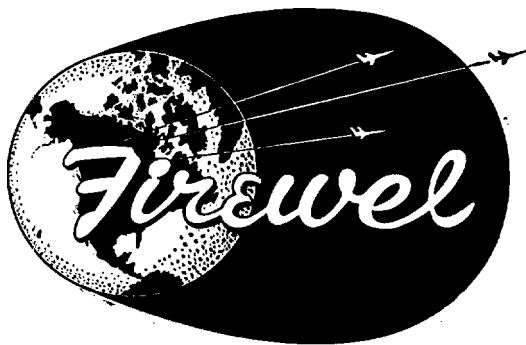
Engineering Utilization: A recent investigation of the efficiency of utilization of engineers has come up with some interesting results, and the conclusion that the typical engineer and scientist (in Southern California electronics and aviation plants) is used at less than 10% of his capability. The study, a thesis toward the Master's degree at the University of California, was made by I. Mirsh, W. Milwitt, W. J. Oakes and R. A. Pelton, under the title "The Relation of Utilization to the Shortage of Scientists." Replies to 148 questionnaires showed that the average engineer and scientist feels he spends only 21% of his time on activities suited to his unique abilities, while 23% of his time, goes toward routine or non-technical activities, with the largest part, 56% of his time, going into report writing, supervision, conferences and similar activity.

In addition to the losses cited, additional reductions in efficiency due to turnover, working in poor physical surroundings, etc., reduce the overall useful time spent by the men to an estimated 8% of the total working time.

HEAR EAA ON KFSD—DAILY 7 A.M. & SUNDAY, 7:15 P.M.

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lieve it will. As an example, may we recall for you the post-war utilization of captured German documents. An authority in the field has often said that the western world saved at least half a billion dollars of research and development funds and thousands of man-years of effort through the use of these documents.

More recently, we have watched the rapid growth of instantaneous means of recording and transmitting to the home plant for simultaneous plotting and analysis, instrumented data taken in wind tunnels, in test stands and in free flight of airframes, missiles and engines undergoing tests hundreds or thousands of miles away. When considered as a separate item, this appears to be a costly venture, but when viewed in terms of total project and facility time and expense, it is economical indeed.

How many of us have seen time and again a reference to a document and known that we could save much time and energy if we could get a copy—at once—rather than to set tedious, time-consuming, and often frustrating processes in motion to get it, or to be faced with the need to duplicate the work already accomplished elsewhere.

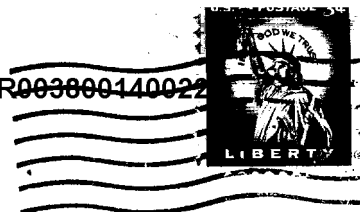
So, when we ask, "Is the effort required to store the world's knowledge in magnetic 'memories' for instantaneous use anywhere in this country worth the time and effort involved?", we say unreservedly—"Yes, it must be done and soon!"

The Truism remains valid, the pen is mightier than the sword.

STATOTHR

ENTER 5 DAYS RETURN TO

02/02/27 : CIA-RDP80B01676R003800140022



STATOTHR

Mr. Allen W. Dulles, Director
Central Intelligence Agency
2430 E Street
Washington, D. C.

I do not think this warrants
reply, or that the writer
particularly expects one.
I recommend it be filed.
[Redacted]
Office informed
9 Aug 58

STATINTL

CLASSIFICATION TOP AND BOTTOM			
UNCLASSIFIED		CONFIDENTIAL	
CENTRAL INTELLIGENCE AGENCY OFFICIAL ROUTING SLIP			
TO	NAME AND ADDRESS	INITIALS	DATE
1	o/DD/I	<i>Feb JUN 3</i>	<i>1958</i>
2	OSI	<i>GRR</i>	<i>9 June</i>
3	ER. for file	<i>6/10/58</i>	<i>QK</i>
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<input checked="" type="checkbox"/>	ACTION	<input checked="" type="checkbox"/>	DIRECT REPLY
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			PREPARE REPLY
			RECOMMENDATION
			RETURN
			SIGNATURE
Remarks:			
<p>For your information and preparation of a direct reply, if you deem it necessary.</p> <p>1 to 2: [REDACTED], Leg. Liaison, would like a copy of your reply to this with a copy of basis. If you decide not to reply, he doesn't need a copy of this.</p> <p><i>Phyllis</i></p>			
FOLD HERE TO RETURN TO SENDER			
FROM: NAME, ADDRESS AND PHONE NO.			DATE
[REDACTED]			2 June 58
Asst. to the DCI			